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10/615,685	07/09/2003	Navin B. Shah	A01304	9809
21898 7590 07/16/2007 ROHM AND HAAS COMPANY PATENT DEPARTMENT 100 INDEPENDENCE MALL WEST PHILADELPHIA, PA 19106-2399			EXAMINER TOSCANO, ALICIA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/615,685  
Filing Date: July 09, 2003  
Appellant(s): SHAH ET AL.

**MAILED**  
**JUL 16 2007**  
**GROUP 1700**

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Andrew E.C. Merriam  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 4/11/07 appealing from the Office action mailed 9/7/06.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

Examiner notes that the only difference between Claims 1 and 6 is that Claim 1 requires an epoxy-functional curing agent and an catalyst whereas Claim 6 requires the specific compounds of triglycidyl isocyanurate (which is the epoxy-functional curing agent) and tetraethyl phosphonium tetrafluoroborate (which is the catalyst).

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

Decker et al (US 6025030), O'Keefe et al (US 6184311), Daly et al (US 6294610) and Ahjopalo et al, 2000, Polymer, 41, 8283-8290

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Keefe (US 6184311) in view of Decker (US 6025030).

As required in Claim 1, O'Keefe discloses a powder coating composition consisting of 10-40% of a semi-crystalline carboxylic acid functional polyester component, 60-90% of an amorphous polyester component, a catalyst (Column 8 Line 42) and an epoxy-functional curing agent (Column 7 Lines 1-6). The total cure time is between 12-20 minutes (See examples). O'Keefe further discloses the epoxy-functional curing agent to be triglycidylisocyanurate (Column 7 Lines 51-54), as required in Claim 4.

O'Keefe includes elements of the invention as discussed above. O'Keefe also discloses the use of isophthalic acid and trimellitic acid as possible carboxylic acid monomers of the semicrystalline resin (Column 5 Line 2). O'Keefe does not include the use of 10-50% of said acids in combination with a second dicarboxylic acid. Isophthalic acid and trimellitic anhydride are disclosed in Applicants specification pg 7 to be the desired asymmetrically substituted carboxylic acid.

Decker discloses weatherable acrylic coating powders. Said powders comprise an acrylic polymer and a polyester-curing agent adduct (abstract). The polyester-curing

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agent adduct comprises a semi-crystalline polyester (Column 3 Line 48). The semicrystalline polyester comprises the reaction product of a dicarboxylic acid monomer and a diol monomer. Decker further discloses the use of up to 10 wt-% of a second di- or tri-carboxylic acid (Column 4 Line 20) such as isophthalic acid and trimellitic acid (Column 4 Line 38) in order to tailor the flexibility of the semicrystalline polyester-curing agent adduct (Column 4 Line 13).

It would be obvious to one skilled in the art to control the amount of isophthalic acid or trimellitic acid in O'Keefe, as taught by Decker, in order to tailor the flexibility of the semicrystalline polyester.

2. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over O'Keefe and Decker in view of Ahjopalo (formerly referred to as Pietila) (Polymer, 41, 2002, 8283).

O'Keefe discloses the elements of the invention as discussed above. O'Keefe does not use a non blooming agent (2-n-butyl-2-ethyl-1,3-propanediol) as part of the amorphous component in the resin.

Ahjopalo teaches the use of 2-butyl-2-ethyl-1,3-propanediol as a monomer that decreases the formation of cyclic molecules when included in the synthesis of polyesters. Cyclic dimers are known to migrate to the coating surface, causing blooming.

It would be obvious to one skilled in the art to include in the amorphous component of O'Keefe 2-butyl-2-ethyl-1,3-propanediol, as taught by Ahjopalo, in order to decrease blooming.

3. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Keefe and Decker in view of Daly (US 6294610).

O'Keefe and Decker include elements of the invention as discussed above. O'Keefe also discloses the use of quaternary phosphonium salts as the catalyst for the curing agent. O'Keefe does not specify which salts to use.

Daly discloses the use of specific catalysts for the low temperature curing reaction between an epoxy resin and a carboxylic acid functional polymer including phosphonium-tetra-substituted borates, arsonium-tetra-substituted borates, ammonium-tetra-substituted borates and imidazole-tetra-substituted borates.

It would be obvious to one skilled in the art at the time of the invention to use one of these catalysts, as taught by Daly, to provide low temperature curing.

#### **(10) Response to Argument**

A. Regarding the rejection of instant claims 1 and 4 under 35 USC section 103(a) as being obvious over O'Keefe in view of Decker.

Examiner disagrees with arguments (i). O'Keefe discloses the use of both amorphous and semi-crystalline polyesters. Decker is relied upon solely to teach the

inclusion of 10 wt% of asymmetrically substituted aromatic polyester. The combination of the two references meets all the limitations set forth in the Claims.

Examiner disagrees with arguments (ii). Examiner is **not** relying on Decker to teach the inclusion of the semi-crystalline polymer (or the semi-crystalline polyester which is adducted curing agent) of Decker in the composition of O'Keefe. Examiner is relying on Decker solely to teach the inclusion of 10 wt% isophthalic acid, an acid O'Keefe teaches to be used in the semi-crystalline polyester though in an unspecified amount, in order to tailor the flexibility of the resin. Applicants arguments drawn towards the adducted semi-crystalline polyester are moot. Applicants arguments are improperly drawn to the inclusion of the semi-crystalline adduct of Decker in the composition of O'Keefe. The Examiner is not relying on Decker for this element since O'Keefe already teaches the blend of an amorphous and semi-crystalline polyester.

B. Regarding the rejection of instant claim 2 under 35 USC 103(a) as being obvious over O'Keefe in view of Decker and further in view of Ahjopalo.

Examiner disagrees with Applicants arguments. Blooming is the migration of low molecular weight cyclic polymers to the surface of a resin, coating or film which causes a surface haze or some other undesired change in the appearance of the surface. Ahjopalo discloses the inclusion of the above monomers in polyester compositions during polyester synthesis aides in non-blooming by decreasing the probability of the formation of macrocyclic structures. That Ahjopalo does not disclose powder compositions is irrelevant. Ahjopalo is relied upon solely to teach the inclusion of

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certain monomers during the polymerization of the amorphous polyester resin in order to decrease the probability of cyclic dimers forming in the amorphous polyester resin.

C. Regarding the rejection of instant claims 5 and 6 as obvious under 35 USC 103(a) over O'Keefe in view of Decker and further in view of Daly et al.

Examiner disagrees with Applicants arguments. Motivation to modify O'Keefe in view of Decker is as set forth by the Examiner in (1) above. Said motivation is proper since both O'Keefe and Decker teach the use of semicrystalline polyesters in a powder coating and Decker teaches why one would want to modify said polyester with a second asymmetrical carboxylic acid. Since the combination of O'Keefe and Decker includes elements of Claims 1 and 4 it is proper to further use Daly to make up for the elements missing in Claims 5 and 6.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

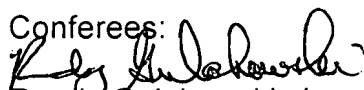
For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Alicia Toscano



Conferees:



Randy Gulakowski, Jennifer K. Michener



JENNIFER MICHENER  
QUALITY ASSURANCE SPECIALIST



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